

Undergraduates and the development of argument

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Abstract: This article emphasizes the need to encourage undergraduate students to develop arguments, which involves enhancing their analytical skills and capacity for critical thinking, across disciplines regardless of level. It argues that these skills, required by the Quality Assurance Agency's (QAA) benchmarks, are developed not by instruction but by engaging with the philosophic process that leads to the deep learning. This process of learning is based on a dialectical approach, viewing dialogue with colleagues, primary texts and written assignments, as central to developing an inductive argument and a critical perspective. This article proposes an analytical framework to analyze the extent to which a tutor is facilitating the development of argument. It suggests that while, if required one must provide students with explicit guidelines about this process, nevertheless this practice is problematic because of the inherent tension between explicit teaching and deep learning, which facilitates the acquisition of these analytical skills.

Key words: analytical skills; critical thinking; deduction; deep learning; development of argument; dialectic; explicit teaching; formative assessment; induction; implicit teaching

1. Introduction

In 2005 the Higher Education Academy (HEA) funded a project to examine the problems with the introduction of argumentation to first year undergraduates across different curricula in the UK. The research brief claimed that introductory courses in the UK rarely gave "sustained attention to writing and argumentation" despite being the main forms of assessment (Andrews & Togerson, 2005). This split between assessment and learning is problematic, particularly as these skills are required by the Quality Assurance Agency's (QAA) subject benchmarks. (Quality Assurance Agency, 2000) Thus it is imperative to encourage undergraduates to engage with process of development of argument as soon as they start university. This article seeks to reflect upon and share thinking and practice about how to encourage students to develop arguments across disciplines, particularly in education. It seeks to suggest that the teaching and learning of argument is a fundamentally dialectical process and proposes an analytical framework that helps to illustrate how dialogue with colleagues, the reading and the process of writing can facilitate the development of analytical skills.

2. "Argument v. Critical Thinking" and "Analysis v. Knowledge"

Before discussing the process of developing argument one must define the terms of analytical skills and critical thinking, which are not only contentious but frequently conflated. (McPeck, 1987) This paper would like to argue that these processes are distinct and that while construction of argument is based on analysis, critical thinking is based on knowledge. Moreover, analysis is based on induction and critical thinking on deduction.

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Peck sees critical thinking based on knowledge and discipline specific. (Peck, 1990; Andrews, 1999; Walker & Finney, 1999; Bailin, no date) In contrast the informal logic and critical thinking movement developed in the US see them as general thinking skills that can be theorized without reference to a particular discipline and can be taught. The movement attempts to make the process explicit and is concerned with teaching students these “higher order” skills through explicit instruction. (Paul, 1994; Resnick, 1989; Bean, 1996; Paul, Binker & Weil, 1990) The study skills approach has built on this approach; providing explicit guidelines about developing these skills unrelated to specific disciplines. It concentrates on assessing arguments without distinguishing between the two processes of analysis and critical thinking. (Van Den Brink Budgen, 2000; Carey, 2000; Reinard, 1991; Cottrell, 2005; Weston, 1992)

This article distances itself from the informal logic approach, and finds itself more in the tradition of Greek rhetoric, particularly within Plato’s dialectical method. (Andrews, 1995; Mitchell, 1994) Moreover, it draws on concepts from formal logic eschewed by the informal logic movement, to clarify concepts of arguments and critical thinking using deduction and induction. (Fisher, 2004; Memering, 2002; Carey, 2000; Reinard, 1991) Thus it is closer to Salmon, a formal logician who explicitly focuses on induction; dealing with it before deduction unlike most formal logicians who favor the latter because their conclusions can be easily evaluated as valid or invalid. (Salmon, 1989) It is also quite close to Toulmin, who sees argumentation as developing a case, which can also be seen as an inductive argument (Toulmin, 1958).

3. Deduction v. Induction

The difference between analysis and critical thinking can be understood by linking them to the processes of inductive and deductive logic. Analysis is an inductive process which moves from the specific to the general; whereas critical thinking is a deductive process which moves from the general to the specific. In most simple terms deduction signifies a move from the general to the specific, whereas induction, specifically inductive generalizations, a move from the specific to the general. (Salmon, 1989, p. 88) Moreover, while deduction necessarily follows from its premises and can therefore be seen as valid or invalid, induction is only probable and while one *can use evidence to support a connection its necessity cannot be proved. Moreover induction depends on the size of the sample and the degree of variety in the sample (random sampling and stratified random sampling)* (Salmon, 1989, p. 100).

Thus, induction is the basis of the scientific method, used in science and social science i.e., the development of a hypothesis and its investigation through observation and experiment. The conclusion cannot be proved but is probable and as good as the quality of evidence. The same process is used in rhetoric and law. A position is defined and a case developed using evidence for support. This article would like to argue that this process of induction, developing a logical case based on evidence, is common to the writing of papers in all disciplines. Thus text becomes the evidence in literature, facts and texts in history and experiments in psychology and physics.

In contrast the process of deduction is based on the questioning of fundamental assumptions. It is the process of learning a discipline i.e., a coherent body of knowledge. This knowledge helps one to understand the diverse perspectives in the field and thus to grasp the “big picture”, which gives one the capacity to critique alternative perspectives and fundamental assumptions. One undergoes this process while writing a PhD dissertation in the UK. Thus ones knowledge of the wider field and perspectives helps one to develop an “intuition” for understanding individual cases within the larger group. Thus, the capacity for critical thinking is dependent upon

subject knowledge. (McPeck, 1987; Andrews, 1999)

Socrates' method was deductive. He questioned the fundamental beliefs and assumptions, moral, scientific and religious of the people whom he met. He attempted to go behind assumptions to find the most general definitions from which one could identify each case. (Plato, 1956) Even in the informal logic movement there seems to be an understanding that critical thinking is about the questioning of assumptions. Ennis' checklist of critical thinking is about critique of premises and arguments. (Ennis, 1962) Paul also sees critical thinking as the ability to understand alternative world views. (Paul, 1994)

Thus while these processes are related i.e., deduction and capacity for critical thinking allow one to critique the hypothesis and question the fundamental assumptions underlying the hypothesis. However, this capacity relies on acquiring knowledge and in some ways is harder than analysis which is the investigation of relationships using observation or text as evidence. While some undergraduates acquire this capacity, it is rare and in order to develop this capacity one must have the capacity to engage in dialogue not only with ones colleagues but with the text. Analysis and analytical thinking and the formulation of logical argument can thus be the first step towards training in inductive argument. Deduction of course does help in critiquing the consistency and coherence of an argument, but its wider use as critique of assumptions is much harder to acquire. The critical questioning of world views in any meaningful way, i.e., based on knowledge rather than mere feeling, develops later.

The US Higher Education system, which is based on the *Writing across the Curriculum* (WAC) and informal logic and critical thinking movement, has emphasized the engagement with the writing process through the development of inductive argument. (Russell, 1991; Davidson & Tomic, 1999) This system values analysis rather than knowledge. In contrast, the British system was based on the acquisition of knowledge rather than analysis. Thus, it is more suited to the development of critical thinking. This was not a problem when the system catered to the elite, however, with widening participation the system emphasizes analysis, which in some sense is more amenable to training. It is also seen as more relevant to the current domestic and international economy, which is why UK government policy has emphasized skills acquisition in education for a long time. (CVCP, 1998; Bradshaw, 1992)

This article would thus like to argue that it is easier to develop students' capacity for analysis and argumentation and one has to give them time to read and develop their capacity for critical thinking as they grow older. I came to understand the role of scepticism and questioning fundamental premises in the British system when I did my PGCE in Higher Education Teaching and my Ph.D.. Having the knowledge and grasp of the literature, ideas and alternative perspectives in the field gave me the capacity to critique alternative perspectives and develop my own synthesis and concepts. Moreover, I used deduction, moving from the literature to a specific case study to support a conceptual framework that I developed, and induction, using the case, field work, to provide evidence for my framework. Thus I began to see the relationship between induction and deduction. Although some undergraduates are able to make this move from the general literature to a specific hypothesis, many tend to describe, encouraging them to move from a specific hypothesis, linking their evidence to the general literature later helps them to focus and analyzes.

4. Encouraging Argument: Explicit v. Implicit Teaching

I emphasize the development of argument in all my teaching especially in education, which is now my primary discipline. From their first year I try to give students general guidelines on the development of argument

and try to demonstrate that all assignments involve this process. I consider myself a second generation innovator because I learned how to develop an argument from my undergraduate teachers at Bryn Mawr College in the 1980s, particularly Mr. Salkever my political philosophy teacher. However, I am a first generation innovator because I learned to read and write analytically and develop arguments without written guidelines. I had to work through my confusion of what was required in analytical writing and the development of argument, with gentle implicit guidance. I learned by engaging with the text, and by trying to figure out what my teachers wanted by pondering on their comments and several attempts at discussion engagement with writing process.

In fact I developed an understanding of my skills as I tried to systematize these insights for the benefit of a new generation of students that demanded guidelines. I systematized them by linking them to the process of induction. Thus I went through a process of meta-cognition, reflecting upon my thought processes and the skills in order to systematize them and make them explicit. Although I systematized these insights for students, I realize that there is an inherent tension between explicit teaching and deep learning.

Thus explicit teaching might be necessary because one must respond to student needs. However, there is a tension between these explicit and implicit teaching. The former leads to engagement, dialectic and working through confusion linked with deep learning and meta-cognition. In the *Meno*, Socrates argues that learning is intrinsic and dialectic and that ignorance and confusion are necessary for progress in learning. However, he also recognizes the importance of the interlocutor and starting from their position. (Plato, 1956) Thus providing these guidelines and more explicit methods of teaching is necessary if the students demand it. However, this does not detract from the suggestion that deep learning is appropriated and absorbed if acquired after struggle and dialectical engagement. (Mitchell, 1994; Bean, 1996) Freedman also claims that whether explicit and implicit teaching methods are used depends on the different learning styles, maturational stages and socio-cultural experiences may require different teaching strategies. (Freedman, 1993, p. 245) Thus one must work within the parameters of responding to student demands, yet encouraging a dialectical approach as much as possible.

5. Teaching and Learning Argument: A Dialectical Framework of Analysis

Thus, I am a first generation innovator in the field of education because I have designed undergraduate courses that explicitly focus on the development of argument using unique methods and written guidelines. I would like to use these courses as examples to highlight that teaching and learning argument is a fundamentally dialectical. (Plato, 1956; Mitchell, 1994) I would like to develop a framework that illustrates that learning to develop argument is a dialectical process which one learns by engaging in dialogue with colleagues, text, writing and assessment. Apart from helping one to reflect upon the extent to which one is encouraging students to develop arguments, this framework can be used to research the extent to which undergraduate teachers are encouraging the development of argument.

6. Dialogue in Class: Discussion v. Lecture

This process is facilitated through discussion in and out of class with colleagues, including the tutor. It is through this dialectical process or dialogue with colleagues that one clarifies ones concepts and definitions and hones ones arguments. Thus discussion rather than lectures facilitates development of argument. However, first years tend to prefer lectures and the imparting of information. By giving into their demands one actually retards their development. Nevertheless one must be led by students and a compromise is to integrate activities which

encourage the development of argument.

(1) In “Social Policy and Learning” I designed templates to help students to develop arguments through individual and group work leading to a general class debate. I also designed exercises in the class which led to training for writing argumentative essays for the open book exam.

(2) It is interesting that the part-time mature students studying “Philosophy of Social Science” and “Social Philosophy” developed arguments based on philosophic texts. They also learned to develop coherent inductive arguments by researching social issues in order to debate these in class. However, the templates for argumentation were not as popular as with the mainstream undergraduates. Perhaps, their maturity led to their interest in social issues, which were close to their work and life experience.

Thus one learns through collaboration and discussion in class. Moreover, deep learning is linked to discussion rather than lectures. The latter is associated with the development of analytical skills whereas the latter with amassing information (Ramsden, 1987; Dart, 1998; Boulton-Lewis, 1998; Entwistle, 1998). The information that can be provided in lectures is insufficient for deep learning and critical thinking.

7. Dialogue with Text: Original Text v. Text Book

Just as lectures are related to surface learning, this article would like to argue that text books cannot lead to deep learning. Thus the student must read and engage with original texts or primary sources. These promote analytical capacity as they present original or at least personal insight whereas the latter presents a mass of information that encourages descriptive writing. This is particularly a problem for first years, who are read textbooks and seek background information and lectures rather than discussion and analysis.

Thus one must discourage the use of text books, which even third years like to use, because they provide a large amount of relatively accessible information. However, these accounts are too superficial and might encourage intellectual laziness; discouraging students from engaging with the struggle of reading original texts and developing their own understanding. Using original texts and primary sources encourages analytical thinking and reading as one has to engage with the text and the analytical process. One has to learn to read analytically i.e., reading actively and creatively. Thinking readers derive different discourses from the text and make meaning of the text in their assignment. (Hoey, 1991, p. 222; Scott, 1999) Furthermore reading and writing critically are parallel processes that are synergistic. One learns to write by analyzing the development of argument in the text. (Wallace & Poulson, 2004, p. 7) Moreover analytical writing and learning is about linking text and experience. (Lea, 1999, p. 105) Thus analytical reading is engaging in dialogue with the text and one's experience.

8. Dialogue with Writing: Guidelines and Assessment

Thus writing is intimately related to the thinking process (Bean, 1996, pp.17-120; Mitchell, 1994). Moreover, even a narrative incorporates different voices is a dialogue. It includes the dialogue one has had with the texts one has read and the dialogue with writing process as well as the internal dialogue one has had with one's self. (Bakhtin, 1981; Mitchell, 1994) Moreover it is the result of the dialogue one has with colleagues and tutors to clarify one's thoughts not only about the reading text but also about one's written work. Therefore the dialogues with colleagues and with the texts are integrated in the writing process.

However, when it comes to writing their assignments students again demand guidelines, which I do provide. Nevertheless, it is through engagement with reading and writing and through developing original connections

between ideas that one learns to develop arguments.

(1) In “Lifelong Learning and Human Development”, first year educational studies students engaged in field work and developed arguments for case studies and group projects based on field work. I met resistance, however, overall they did well but I provided them with explicit guidelines and a lot of support throughout the process.

(2) I also provided guidelines in “Social Policy and Learning” and encourage them to engage with text and discussions, particularly plans, to develop work.

Thus writing is a dialogic process. (Nicol & Macfarlane-Dick, no date) Apart from the student engagement with the writing process, the tutor also engages with this “text” i.e., the assignment. Formative assessment is the tutor’s dialogue with text and students need to learn from that dialogue.

However, in addition to lectures and text books students tend to like explicit feedback. They do not like general statements like ‘not analytical enough’, (Ivanic & Rimmershaw, 2000) which drove me to tears as an undergraduate. Hounsell also claims that students need more explicit feedback in order to understand what the tutor expects from them (Hounsell, 1987). Both see assessment as dialogue between tutor and student and the need to enhance the communication of feedback. (Also see Nicole & Macfarlane-Dick, no date) I give specific feedback, on content as well as the development of argument, including the problems of connections between paragraphs, vital to logical writing. However, there is a danger of developing a checklist approach to assessment that becomes related to saving the tutors’ time (Bean, 1996, pp. 237-238).

Moreover, I learned without such specific guidelines and feel that I truly appropriated my learning. I also learned from my colleagues. Collaborative learning can enhance analytical abilities significantly. Students learn from each other: their understanding is enriched, explaining and discussing concepts clarifies concepts and lines of argument. For example a fellow undergraduate tried to explain how to develop logical arguments after looking at my assignment. She claimed it was like a jigsaw puzzle; each paragraph could only be put in a certain place and had to follow necessarily from the previous one. Ones work was done when one could not arrange them in any other way. This was a very useful piece of advice that I still cherish. Thus, learning is a collaborative, dialectical enterprise. We refine our ideas and arguments and move our positions through dialectic (Plato, 1956).

9. Philosophy and Dialectical Engagement

The problem with deep learning and appropriation of learning is that they are uncomfortable processes. One has to work through ones confusion and struggle for ones learning (Mitchell, 1994; Bean, 1996, p. 19). Plato claimed that confusion is good and knowledge is elicited not taught. One learns only after acknowledging ones confusion and ignorance (Plato, 1956). Bean indeed claims that one needs to create cognitive dissonance in students and make them realize that knowledge is dialectical not informational (Bean, 1996, p. 27).

Philosophy as a process engages with the question of the clarity of concepts and definitions as well as with thinking and writing; along with the development of analytical skills and critical thinking, these form the basis of construction an argument. These processes cannot be taught through instruction or learned by reading a manual but may be acquired by engagement with the philosophic process that leads to deep learning. This engagement is a dialectical process of discussion with colleagues, tutors and fellow students, in and out of class, engagement with primary texts i.e., discussion with Aristotle and engaging with his arguments rather than learning about the history of Greek philosophy. It means seeing writing as a dialectical process that engages with ideas and concepts and presents them logically and clearly. In this process the tutor also engages in dialogue with student and the text as

well as with student's written work, thus assessment becomes a formative process indicative of development.

The method of lecturing, imparting of information to students, and textbooks which provide summaries of primary sources as well as summative assessment runs counter to this process, as these emphasize information and therefore students tend to write descriptively rather than analytically. This is an increasing problem, even at higher levels in the undergraduate system; sometimes even level 6 students resist analytical and critical thinking. These are painful processes and initially involve confusion and frustration. The tutor can be empathetic and act not just as facilitator but as counsellor however they must engage in the process themselves (Keely & Shemberg, 1995; Rogers, 2002). The educational system is moving toward the systematizing insights, partly in order to save time. The problem is that one loses the appropriation of learning that accompanies learning through discovery and struggle.

10. Conclusion

This article would like to suggest that an introductory philosophy course based on original philosophical texts, ranging from philosophy of education to philosophy of science depending on the department, would help first year undergraduates to develop their capacity for argumentation and enhance their learning experience. Such a course would help them to engage with discussions, original text and analytical writing and develop their analytical and critical capacities. The great defender of knowledge based on critical thinking McPeck also suggests the introduction of the philosophy of specific subjects across the curriculum (McPeck, 1990, pp.16-17).

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